



**DEPARTMENT OF GEOMATICS ENGINEERING**  
**UNDERGRADUATE PROGRAM IN GEOMATICS ENGINEERING**  
**COURSE SYLLABUS**

<b>COURSE</b>	Name	Geospatial Information Infrastructure
	Code	RM184953
	Credits	2 (two)
	Semester	Elective Course

**COURSE DESCRIPTION**

This course contains material about the basic concepts of Geospatial Information Infrastructure (IIG). The role of geomatics engineering is in designing, building, managing and developing IIG. In IIG's role in Indonesia, related to the sharing and exchanging of geospatial data and information in order to respond to problems and issues related to IIG.

**EXPECTED LEARNING OUTCOME**

D	Able to perform spatial data acquisition using modern measurement methods, geospatial data processing, using industry standard software, and making standard designs and analyzes in the fields of geodesy, surveying,
E	Able to apply information & communication technology and the latest technological developments in the fields of geodesy, surveying, hydrographic, remote sensing, photogrammetry, geographic information systems, and cadastral.
H	Able to work in inter-disciplinary and inter-cultural teams so they can compete at national and international levels.

**COURSE LEARNING OUTCOME**

1	Students are able explain the concept of IIG and IIG components.
2	Students are able explain the needs of data and geospatial information in IIG.
3	Students are able explain the concepts of metadata, interoperability and feature catalogs.
4	Students are able make geoportal designs.
5	Students are able explain the concepts and methods of IIG and geoportal evaluation.
6	Students are able to explain the issue of using natural resources versus preserving the environment.

**COURSE MATERIALS**

1	The IIG concept and its IIG building components.
2	The concept of making IIG design and its development process.
3	Management and development of IIG to support various spatial-based development activities.
4	IIG and geoportal evaluation models.
5	Simple geoportal design using commercial and open source software.

**PREREQUISITE**

Spatial Database System; Introduction to Geographic Information System

**REFERENCES**

A.	Main References
	Crompvoets, J., Rajabifard, A., et al., 2008. A Multi-view Framework to Assess Spatial Data Infrastructures, Space for Geo-Information (RGI), Wageningen University and Centre for SDIs and Land Administration, Department of Geomatics, The University of Melbourne.
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2	Darmawan, M., dkk., 2013, Panduan Umum Pembangunan Simpul Jaringan, Badan Informasi Geospasial.
3	GSDI, 2009, SDI Cookbook, Global Spatial Data Infrastructure (GSDI) Inc.
4	Rusmanto, A., dkk., 2014, Petunjuk Teknis Pembangunan Simpul Jaringan, Badan Informasi Geospasial
5	Williamson, I., et al, 2003. Developing Spatial Data Infrastructures from Concept to Reality, CRC Press.
B.	Additional References

Pemerintah Republik Indonesia, 2018, Keputusan Presiden Republik Indonesia Nomor 20 Tahun 2018 tentang Kewenangan Akses Untuk Berbagi Data dan Informasi Geospasial Melalui Jaringan Informasi Geospasial Nasional dalam Kegiatan Percepatan Pelaksanaan Kebijakan Satu Peta

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Kresse W., and Danko, D. (2012). Springer Handbook of Geographic Information. Berlin Heidelberg, Springer-Verlag

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Open Geospatial Consortium, OGC Reference Model (ORM), <http://www.opengeospatial.org/standards/orm>

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